

CLAIMS

1. A phase change-type memory element comprising:  
two or more electrodes provided through an insulating layer;  
an exposed surface on which at least a part of the insulating layer and at least a part of each of the electrodes are exposed; and  
a phase change recording material layer provided, on said exposed surface, in contact with said at least two electrodes.
2. The phase change-type memory element according to claim 1, wherein said exposed surface is constituted by at least one of a plane surface, a multiplane surface, and a curved surface.
3. The phase change-type memory element according to claim 1, wherein the phase change recording material layer has a thickness in the range of 1 to 1,000 nm.
4. The phase change-type memory element according to claim 1, wherein the insulating layer interposed between a pair of the electrodes constituting one memory area has a thickness in the range of 10 to 1,000 nm.
5. The phase change-type memory element according to any one of claims 1 to 4, wherein the phase change recording material layer contains at least one chalcogenide.
6. The phase change-type memory element according to any one of claims 1 to 4, wherein the phase change recording material layer is formed of an organic material.
7. The phase change-type memory element according to claim 1, wherein a barrier layer and/or a heat control layer are provided between the exposed surface and the phase change recording material layer.
8. A process for producing a phase change-type memory element, comprising the steps of:  
providing two or more electrodes opposite to each

other through an insulating material;

forming an exposed surface on which at least a part of the insulating material and at least a part of each of the electrodes are exposed; and

forming a phase change recording material layer on the exposed surface so as to be in contact with at least two of the electrodes.